



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/523,017

09/15/2005

Baek-Kyun Jeon

8071-155T

6430

7590 05/01/2008
F. Chau & Associates, LLC
130 Woodbury Road
Woodbury, NY 11797

EXAMINER

BRIGGS, NATHANAEL R

ART UNIT	PAPER NUMBER
----------	--------------

2871

MAIL DATE	DELIVERY MODE
-----------	---------------

05/01/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/523,017	Applicant(s) JEON ET AL.	
	Examiner NATHANAEL R. BRIGGS	Art Unit 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,7,8,10 and 11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,7,8,10 and 11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-5, 7-8, and 10-11 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by Yanagawa et al. (US 6,583,846).**

4. Regarding claim 1, Yanagawa discloses a panel for a liquid crystal display (see figures 1a, 1b, and 15, for instance), the panel comprising: an insulating substrate (1) with a display area (column 5, lines 8-9); and a plurality of spacers (10) formed on the insulating substrate (1) and contacting the insulating substrate (1) to support the insulating substrate (1), wherein the spacers (10) have a column type formed by using a photolithography (column 6, lines 57-65) and contact area of the spacers (10) contacting the substrate (1) increases as the spacers (10) are located closer (see figure 15, middle spacer between the top and bottom spacers) to a center of the display area (column 5, lines 8-9). Claim 1 is therefore unpatentable.

Art Unit: 2871

5. Regarding claim 2, Yanagawa discloses the panel of claim 1 (see figures 1a, 1b, and 15, for instance), wherein the contact area of the spacers at the center of the display area is equal to or less than 3.2 times the contact area of the spacers closest to edges of the display area. Claim 2 is therefore unpatentable.

6. Regarding claim 3, Yanagawa discloses the panel of claim 2, Yanagawa discloses the panel of claim 1 (see figures 1a, 1b, and 15, for instance), further comprising a gate wire (2) and a data wire (3) formed on the insulating substrate and transmitting electrical signals such as a scanning signal and a picture signal, a thin film transistor (TFT) electrically connected to the gate wire and the data wire and serving as a switching element for controlling the picture signal, and a pixel electrode (5) receiving a pixel voltage for drive liquid crystal molecules. Claim 3 is therefore unpatentable.

7. Regarding claim 4, Yanagawa discloses the panel of claim 2, further comprising red, green and blue color filters formed on the insulating substrate (FIL). Claim 4 is therefore unpatentable.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. **Claims 5, 7-8, and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yanagawa et al. (US 6,583,846) in view of Byun et al. (2003/0223030).**

Art Unit: 2871

10. Regarding claim 5, Yanagawa discloses a liquid crystal display (see figures 1a, 1b, 15, and 22, for instance) comprising: two substrates (1A, 1B) facing each other and having a display area (column 5, lines 8-9); a sealant (20) formed along a periphery of the substrates located external to the display area, and supporting the substrates (1A, 1B); a liquid crystal layer filled in a room enclosed by the substrates and the sealant (column 16, lines 28-39); and a plurality of spacers (10) having a column type and formed between the substrates and contacting the substrates with different contact areas to support the substrates, wherein contact area of the spacers (10) contacting the substrate increases as the spacers are located closer to a center (see figure 15, middle spacer between the top and bottom spacers) of the display area (column 5, lines 8-9). However, Yanagawa does not expressly disclose wherein the sealant has the shape of a closed loop.

11. Regarding claim 5, Byun discloses an LCD (see figure 5, for instance), wherein the sealant is in the shape of a closed loop (30).

12. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the sealing method of Byun in the LCD of Yanagawa. The motivation for doing so would have been to reduce processing time and increase productivity in comparison with the injection method, as taught by Byun ([0031]). Claim 5 is therefore unpatentable.

13. Regarding claim 7, Yanagawa in view of Byun discloses the liquid crystal display of claim 5 (see Yanagawa figures 1a, 1b, 15, and 22, for instance), and Yanagawa further discloses wherein the contact area of the spacers at the center of the display

area is equal to or less than 3.2 times the contact area of the spacers closest to edges of the display area. Claim 7 is therefore unpatentable.

14. Regarding claim 8, Yanagawa discloses a method of manufacturing a liquid crystal display (see Yanagawa figures 1a, 1b, 15, and 22, for instance), the method comprising: forming a plurality of spacers (10) on one of two substrates (1A, 1B) having display areas (column 5, lines 8-9) using photolithography, the spacers (10) located on the display area of the one of two substrates and contacting the substrate with different contact areas to supporting the substrate (see figure 15, middle spacer between the top and bottom spacers), wherein contact area of the spacers contacting the substrate increases as the spacers are located closer to a center (see figure 15, middle spacer between the top and bottom spacers) of the display area (column 5, lines 8-9); applying a sealant (20) on one of the substrates. However, Yanagawa does not expressly disclose the steps of dropping a liquid crystal material on the substrate applied with the sealant; and combining the substrates under a vacuum atmosphere.

15. Regarding claim 8, Byun discloses a method of manufacturing an LCD (see figure 5, for instance) having steps of dropping a liquid crystal material ([0288]) on the substrate (20) applied with the sealant (30); and combining the substrates under a vacuum atmosphere ([0297]).

16. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the sealing and dropping method of Byun in the LCD of Yanagawa. The motivation for doing so would have been to reduce processing time and

increase productivity in comparison with the injection method, as taught by Byun ([0031]; [0288]). Claim 8 is therefore unpatentable.

17. Regarding claim 10, Yanagawa in view of Byun discloses the method of claim 8 (see Yanagawa figures 1a, 1b, 15, and 22, and Byun figure 47, for instance), and Byun further discloses wherein the combination of the substrates comprises: aligning the substrates (S57); evacuating a room between the substrates (S54); adhering the substrates using vacuum atmosphere (S58); pressurizing the substrates using atmospheric pressure (S60); attaching the substrates with the sealant (S59); and combining the substrates by hardening the sealant (1200). Claim 10 is therefore unpatentable.

18. Regarding claim 11, Yanagawa in view of Byun discloses the method of claim 10 (see Yanagawa figures 1a, 1b, 15, and 22, for instance), and Yanagawa further discloses wherein the contact area of the spacers at the center of the display area is equal to or less than 3.2 times the contact area of the spacers closest to edges of the display area when combining the substrates. Claim 11 is therefore unpatentable.

Conclusion

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NATHANAEL R. BRIGGS whose telephone number is (571)272-8992. The examiner can normally be reached on 9 AM - 5:30 PM Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/523,017
Art Unit: 2871

Page 8

Nathanael Briggs – 4/25/2008

/Andrew Schechter/
Primary Examiner, Art Unit 2871